

Dust Bath use in Slow-Growing and Fast-Growing Broilers

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Introduction

- Selection for faster growing birds increases the need for higher standards of welfare.
- Slow-growing birds have better welfare outcomes than the faster-growing strains (Hartcher & Lum, 2019)
- Need for further research in use of enrichment and use due to higher welfare outcomes leading to better end product
Dust-bathing is a natural behavior in broilers and can be indicative of positive affective states (Skånberg, 2022)

Methods

- 600 birds, Ross 708 (Fast-growers) and Hubbard Redbro (Slow-growers)
- 50 birds in 12 pens with 3 replicates per treatment
- Housing
 - Simple environment (
 - Litter, feeders, drinkers
 - Enriched environments
 - Dust baths
- Measurements
 - Number of birds were counted at in the in the EE and SE pens in zones
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Figure 1. Enrichment zones where birds were counted

Results

Responses were grouped by weight (kg) and by age (weeks). Bars labeled with an A or B were found to be statistical significant with $p < 0.05$. The rest of the groups showed no significant differences.

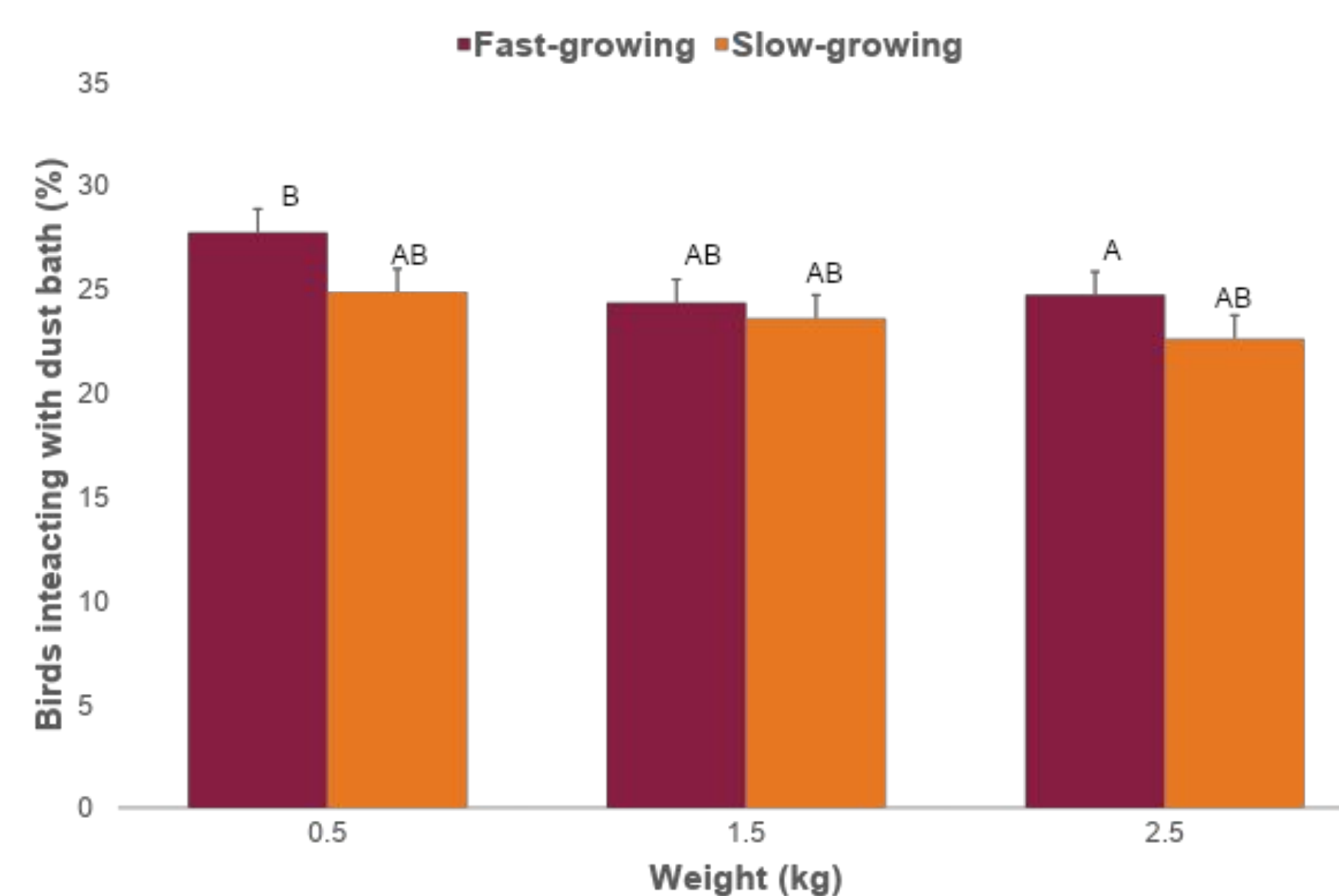


Figure 2. Difference in fast-growing and slow-growing birds interaction by weight

Significant differences were observed in the fast growers at

- 0.5 and 2.5 kg. Birds were more likely to use the zone at 0.5 kg than 2.5 kg ($p < 0.0278$)

No significant differences were observed at:

- .5kg, 1.5kg and 2.5kg for fast-growers.
- 1.5 for slow-growers

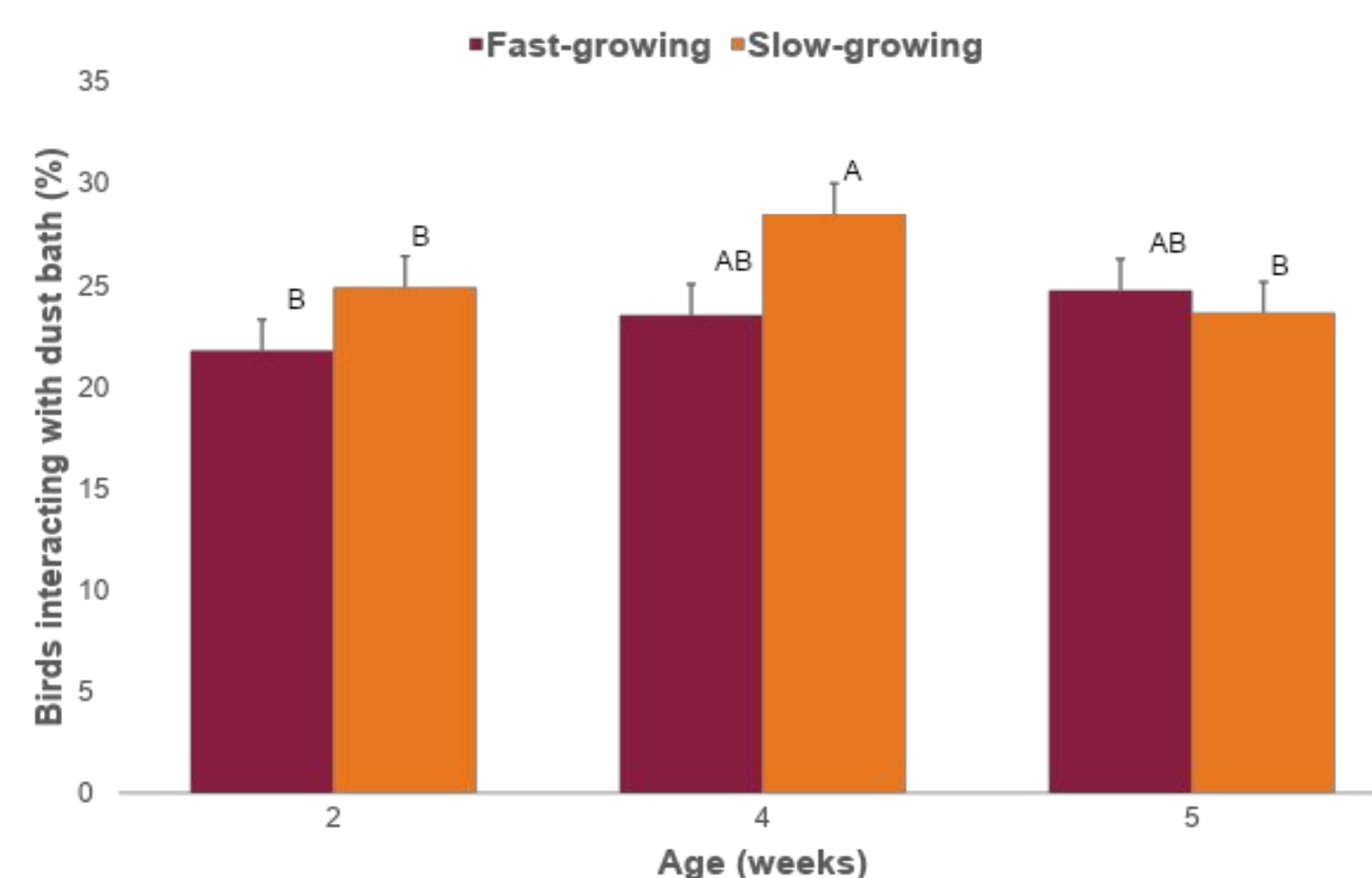


Figure 3. Difference in Fast-growing and slow-growing birds interaction by age

Significant differences were observed at:

- Fast-growers at 2 weeks and slow-growers at 4 weeks. The slow-growers were seen to frequent the area more. ($p < 0.0261$)
- Slow-growers at 2 and 4 weeks. The birds at 4 weeks frequented the area. ($p < 0.0094$)
- Slow-growers at 4 and 5 weeks. The birds at four weeks frequented more. ($p < 0.001$)
- No differences were observed at:
- 4 weeks and 5 weeks in slow growers

Discussion

- Birds showed differences in use between ages and weight
- The differences observed in weight category and in age may be due to needing to group together to feel more secure
- The difference in strain may be due to the growth rate as the birds stay smaller longer that may affect the difference show in strain and age.
- Number of birds was only recorded, not behavior. Specific behaviors may allow insights and show the enrichment zones are use
- Birds did not get behaviors recorded due to time constraints and reliability

Conclusions

[Effect of EE treatment on zone use]

Slow- and fast-growing broilers used the dust bath zone mostly equally, indicating that motivation to spend time did not differ between genetic strains.

Future research could investigate potential behavioral differences between strains while using the dust bath zone, which may help in identifying why age and weights impacted the use of this zone.

Acknowledgments

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References

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